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COMMITTEE OF EXPERTS ON THE
TRANSPORT OF DANGEROUS GOODS

REPORT OF THE COMMITTEE OF EXPERTS ON ITS TWENTIETH SESSION (7-16 December 1998)

Addendum 1

Annex 1

Amendments to the Recommendations on the Transport of Dangerous Goods (Model Regulations and Manual of Tests and Criteria)

This annex contains amendments to the Model Regulations on the Transport of Dangerous Goods (refer to the annex to the Recommendations on the Transport of Dangerous Goods, tenth revised edition, ST/SG/AC.10/1/Rev.10) and to the Manual of Tests and Criteria (ST/SG/AC.10/11/Rev.2) adopted by the Committee at its twentieth session.

It is divided in three parts:

Part 1: Amendments to the Model Regulations on the Transport of Dangerous Goods (except class 7 related amendments);

Part 2: Amendments related to class 7 (Radioactive material) (with reference to document ST/SG/AC.10/C.3/30/Add.3);

Part 3: Amendments to the Manual of Tests and Criteria (with reference to document ST/SG/AC.10/1998/14).

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PART 1

AMENDMENTS TO THE MODEL REGULATIONS ANNEXED TO THE TENTH REVISED EDITION OF THE UNITED NATIONS RECOMMENDATIONS ON THE TRANSPORT OF DANGEROUS GOODS (Refer to ST/SG/AC.10/1/Rev.10) (Except for class 7 related amendments)

TABLE OF CONTENTS

Amend the table of contents to reflect amendments to the various parts of the Model Regulations, as appropriate.

Chapter 1.2

1.2.1 Add the following definitions:

"*Large packagings* are packagings consisting of an outer packaging which contains articles or inner packagings and which

(a) are designed for mechanical handling; and

(b) exceed 400 kg net mass or 450 litres capacity but have a volume of not more than 3 m^3."

"*Liner* means a separate tube or bag inserted into a packaging, (including IBCs and large packagings) but not forming an integral part of it, including the closures of its openings."

Chapter 2.0

2.0.1.1 In the title of Division 4.1, delete "and related" after "self-reactive".

2.0.1.3 Amend this paragraph to read as follows:

"2.0.1.3 Certain substances may be assigned to packing groups in accordance with their degree of danger. The packing groups have the following meanings:

Packing Group I:	Substances presenting high danger
Packing Group II:	Substances presenting medium danger
Packing Group III:	Substances presenting low danger."

2.0.3(c) Insert a new sub-paragraph (c) to read as follows:

"(c) liquid desensitised explosives of Class 3;"

Renumber consequently the other sub-paragraphs.

2.0.3(d) Delete "and related" after "self-reactive" (existing sub-paragraph (c)).

2.0.3.1 In the table, add "*" after 3 I, 3 II and 3 III and delete "*" after 5.1 I, 5.1 II and 5.1 III in the first column.

Amend footnote */ to read as follows:

"*/ Substances of Division 4.1 other than self-reactive substances and solid desensitized explosives and substances of Class 3 other than liquid desensitized explosives."

2.0.4 Add a new section 2.0.4 as follows:

"**2.0.4 Transport of samples**

2.0.4.1 When the hazard class of a substance is uncertain and it is being transported for further testing, a tentative hazard class, proper shipping name and identification number shall be assigned on the basis of the consignor's knowledge of the substance and application of:

(a) the classification criteria of these Regulations; and

(b) the precedence of hazards given in 2.0.3.

The most severe packing group possible for the shipping name chosen shall be used.

Where this provision is used the proper shipping name shall be supplemented with the word "sample" (e.g., FLAMMABLE LIQUID, N.O.S. Sample). In certain instances, where a specific proper shipping name is provided for a sample of a substance considered to meet certain classification criteria (e.g., GAS SAMPLE, NON-PRESSURIZED, FLAMMABLE, UN 3167) that shipping name shall be used. When an N.O.S. entry is used to transport the sample, the proper shipping name need not be supplemented with the technical name as required by special provision 274.

2.0.4.2 Samples of the substance shall be transported in accordance with the requirements applicable to the tentative assigned proper shipping name provided:

(a) the substance is not considered to be a substance prohibited for transport by 1.1.2;

(b) the substance is not considered to meet the criteria for Class 1 or considered to be an infectious substance or a radioactive material;

(c) the substance is in compliance with 2.4.2.3.2.5(b) or 2.5.3.2.5.1 if it is a self-reactive substance or an organic peroxide, respectively;

(d) the sample is transported in a combination packaging with a net mass per package not exceeding 2.5 kg; and

(e) the sample is not packed together with other goods."

Chapter 2.1

2.1.3.5.3 Amend to read as follows:

"2.1.3.5.3 Where a substance is assigned to Class 1 but is diluted to be excluded from Class 1 by Test Series 6, this diluted substance (hereafter referred to as desensitized explosive) should be listed in the Dangerous Goods List of Chapter 3.2 with an indication of the highest concentration which excluded it from Class 1 (see 2.3.1.4 and 2.4.2.4) and if applicable, the concentration below which it is no longer deemed subject to these Regulations. New solid desensitized explosives subject to these Regulations should be listed in Division 4.1 and new liquid desensitized explosives should be listed in Class 3. When the desensitized explosive meets the criteria or definition for another class or division, the corresponding subsidiary risk(s) should be assigned to it."

Chapter 2.3

2.3.1.1 Add a new paragraph 2.3.1.1 to read as follows:

"2.3.1.1 Class 3 includes the following substances:

(a) Flammable liquids (see 2.3.1.2 and 2.3.1.3);

(b) Liquid desensitized explosives (see 2.3.1.4).

Renumber existing paragraph 2.3.1.1 and 2.3.1.2 as 2.3.1.2 and 2.3.1.3.

Add a new paragraph 2.3.1.4 to read to read as follows:

"2.3.1.4 Liquid desensitized explosives are explosive substances which are dissolved or suspended in water or other liquid substances, to form an homogeneous liquid mixture to suppress their explosives properties (see 2.1.3.5.3).
Entries in the Dangerous Goods List for liquid desensitized explosives are : UN 1204, UN 2059, UN 3064 and UN 3343."

2.3.2.3(b) Amend to read as follows:

"(b) the mixture or any separated solvent does not meet the criteria for Division 6.1 or Class 8."

2.3.3 Under United Kingdom, replace "BS 2000 Part 34" with "BS EN 22719".

Chapter 2.4

2.4.1.1(a) Delete "and related" after "self-reactive".

2.4.2 In the heading, insert "solid" before "desensitized" and delete "and related" after "self-reactive".

2.4.2.1(b) Delete "and related" after "self-reactive".

2.4.2.3 Delete "and related" after "self-reactive".

2.4.2.3.1.1(b) Delete (and delete letter "(a)" before the previous sub-paragraph).

2.4.2.3.2 Delete "and related" after "self-reactive".

2.4.2.3.2.2 Delete.

2.4.2.3.2.3 Renumber as 2.4.2.3.2.2.

Figure 2.1 (b) Delete the footnote as well as the asterisk in the box of exit F.

2.4.2.3.2.4 Add the following new entry:

SELF-REACTIVE SUBSTANCE	Concentration (%)	Packing method	Control temperature (° C)	Emergency temperature (° C)	UN generic entry	Remarks
2,2'-AZODI(ISOBUTYRONITRILE) as a water based paste	≤ 50%	OP6			3224	

2.4.2.4 Amend to read as follows:

"**2.4.2.4 Division 4.1 *Solid desensitized explosives***

2.4.2.4.1 Definition

Solid desensitized explosives are explosive substances which are wetted with water or alcohols or are diluted with other substances, to form a homogeneous solid mixture to suppress their explosive properties (see 2.1.3.5.3). Entries in the Dangerous Goods List for solid desensitized explosives are UN Nos 1310, UN 1320, UN 1321, UN 1322, UN 1336, UN 1337, UN 1344, UN 1347, UN 1348, UN 1349, UN 1354, UN 1356, UN 1357, UN 1317, UN 1371, UN 2555, UN 2556, UN 2852, UN 2907, UN 3270, UN 3319 and UN 3344.

2.4.2.4.2 Substances that:

(a) have been provisionally accepted into Class 1 according to Test Series 1 and 2 but exempted from Class 1 by Test Series 6;

(b) are not self-reactive substances of Division 4.1;

(c) are not substances of Class 5;

are also assigned to Division 4.1. UN 2956, UN 3241, UN 3242 and UN 3251 are such entries."

Chapter 2.5

2.5.3.2.4 Replace "+10" by "+15" in the column headed "Control Temperature (°C)" and "+15" by "+20" in the column headed "Emergency temperature (°C)" for the entry "tert-BUTYL PEROXY-2-ETHYLHEXANOATE (in tanks)".

Replace "-5" by "+5 " in the column headed "Control Temperature (°C)" and "+5 " by "+10" in the column headed "Emergency Temperature (°C)" for the entry "tert-BUTYL PEROXYPIVALATE (in tanks)".

Replace "-10" by "0" in the column headed "Control Temperature (°C)" and "0" by "+5" in the column headed "Emergency Temperature (°C)" for the entry "DI-(3,5,5-TRIMETHYLHEXANOYL) PEROXIDE (in tanks)".

Replace "≤ 42" by "≤ 52" in the column headed "Concentration (%)" for the third entry for " tert-BUTYL PEROXYNEODECANOATE".

Replace "OP8,M" by "OP8,N,M" in the column headed "Packing Method" for the last entry for "tert-BUTYL HYDROPEROXIDE".

Replace "OP8" by "OP8,N" in the column headed "Packing Method" and "3117" by "3119" in the column headed "Number (Generic entry)" for the last entry for "DI-(3,5,5-TRIMETHYLHEXANOYL) PEROXIDE".

Replace "OP8" by "OP8,N" in the column headed "Packing Method" for the second entry for "2,4,4-TRIMETHYLPENTYL-2-PEROXYNEODECANOATE".

Replace "OP7" by "OP5" in the column headed "Packing Method" and "3115" by "3113" in the column headed "Number (Generic entry)" for the entry for "2,5-DIMETHYL-2,5-DI-(2-ETHYLHEXANOYLPEROXY)HEXANE".

Replace "-10" by "-20" in the column headed "Control Temperature (°C)" and "0" by "-10" in column headed "Emergency Temperature (°C)" for the second entry for "DIISOPROPYL PEROXYDICARBONATE".

Replace "+5" by "0" in the column headed "Control Temperature (°C)" for the second entry for "tert-BUTYL PEROXYNEOHEPTANOATE".

Replace "+10" by "-10" in the column headed "Control Temperature (°C)" for the second entry for "CUMYL PEROXYNEOHEPTANOATE".

Delete "≥28" in the column headed "Diluent type B (%) 1)" and add "≥28" in the column headed "Diluent type A (%)" for the second entry for "CYCLOHEXANONE PEROXIDE(S)".

Add "≥23" in the column headed "Diluent type B (%) 1)" for the second entry for "DI-(2-ETHYLHEXYL) PEROXYDICARBONATE".

Replace "+25" by "+20" in the column headed "Emergency Temperature (°C)" for the entry for "DIMYRISTYL PEROXYDICARBONATE (in IBCs)".

Add "3)" in the column headed "Subsidiary risks and remarks" for the second entry for "ISOPROPYL sec-BUTYL PEROXYDICARBONATE + DI-sec-BUTYL PEROXYDICARBONATE + DI-ISOPROPYL PEROXYDICARBONATE".

Wherever it appears in the column headed "ORGANIC PEROXIDE", amend the name of "1,1-DI-(tert-BUTYLPEROXY)-3,5,5-TRIMETHYLCYCLOHEXANE" to read:

"1,1-DI-(tert-BUTYLPEROXY)-3,3,5-TRIMETHYLCYCLOHEXANE"

Wherever it appears in the column headed "ORGANIC PEROXIDE", amend the name of "2,4,4-TRIMETHYLPENTYL-2-PEROXYNEODECANOATE" to read:

"1,1,3,3-TETRAMETHYLBUTYL PEROXYNEODECANOATE"

Wherever it appears in the column headed "ORGANIC PEROXIDE", amend the name of "2,4,4-TRIMETHYLPENTYL-2-PEROXYPHENOXYACETATE" to read:

"1,1,3,3-TETRAMETHYLBUTYL PEROXYPHENOXYACETATE"

2.5.3.2.4 Add the following new entries:

ORGANIC PEROXIDE	Concentration (%)	Diluent type A (%)	Diluent type B (%) 1)	Inert solid (%)	Water (%)	Packing Method	Control Temperature (°C)	Emergency Temperature (°C)	Number (Generic entry)	Subsidiary risks and remarks
DI-(2-ETHOXYETHYL) PEROXYDICARBONATE	≤ 52		≥48			OP7	-10	0	3115	
tert-HEXYL PEROXYPIVALATE	≤ 72		≥28			OP7	+10	+15	3115	
DI-(3-METHOXYBUTYL) PEROXYDICARBONATE	≤ 52		≥48			OP7	-5	+5	3115	
DI-(3-METHYLBENZOYL) PEROXIDE + BENZOYL (3-METHYLBENZOYL) PEROXIDE + DIBENZOYL PEROXIDE	≤ 20+≤ 18+≤ 4		≥58			OP7	+35	+40	3115	
DI-(2-ETHYLHEXYL) PEROXYDICARBONATE	≤ 62 as a stable dispersion in water					OP8	-15	-5	3117	
2,2-DI-(4,4-DI-(tert-BUTYLPEROXY CYCLOHEXYL) PROPANE	≤ 22		≥78			OP8			3107	
tert-HEXYL PEROXYNEODECANOATE	≤71	≥29				OP7	0	+10	3115	
1,1-DI-(tert-BUTYLPEROXY)-3,3,5-TRIMETHYLCYCLOHEXANE	≤77		≥23			OP7			3105	
3,6,9-TRIETHYL-3,6,9-TRIMETHYL-1,4,7-TRIPEROXONANE	≤42	≥58				OP7			3105	28)
tert-BUTYL PEROXYNEODECANOATE	≤32	≥68				OP8,N	0	+10	3119	
tert-BUTYL PEROXYNEODECANOATE (in IBCs)	≤42 as a stable dispersion in water					N	-5	+5	3119	
CUMYL PEROXYNEODECANOATE (in IBCs)	≤52 as a stable dispersion in water					N	-15	-5	3119	
DI-(2-ETHYLHEXYL) PEROYDICARBONATE (in IBCs)	≤52 as a stable dispersion in water					N	-20	-10	3119	
2,5-DIMETHYL-2,5-DI-(tert-BUTYLPEROXY)HEXANE	≤77			≥23		OP8			3108	
2,5-DIMETHYL-2,5-DI-(tert-BUTYLPEROXY)HEXYNE-3	>86-100					OP5			3101	3)
METHYL ETHYL KETONE PEROXIDE(S)	≤37	≤55			≥8	OP7			3105	9)

Amend the following entries to read:

ORGANIC PEROXIDE	Concentration (%)	Diluent type A (%)	Diluent type B (%) 1)	Inert solid (%)	Water (%)	Packing Method	Control Temperature (°C)	Emergency Temperature (°C)	Number (Generic entry)	Subsidiary risks and remarks
tert-AMYL PEROXYBENZOATE	≤ 100					OP5			3103	
DI-n-PROPYL PEROXYDICARBONATE	≤ 100					OP3	- 25	- 15	3113	
	≤ 77		≥ 23			OP5	- 20	- 10	3113	

Under Notes on 2.5.3.2.4, amend notes 3), 13) and 27) to read as follows:

"3) "EXPLOSIVE" subsidiary risk label required."

"13) "CORROSIVE" subsidiary risk label required."

"27) For concentrations more than 56%, "CORROSIVE" subsidiary risk label required."

Under Notes on 2.5.3.2.4, add a new note 28) to read as follows:

"28) Available active oxygen ≤ 7.6% in diluent type A having a 95% boil-off point in the range of 220 - 260 °C."

Chapter 2.6

2.6.3.1.3(b) Amend to read:

"(b) Those where a relatively low probability exists that pathogens of risk groups 2 or 3 are present. Specimens transported for the purpose of initial diagnosis for other than the presence of pathogens or specimens transported for routine screening tests fall within this Group;"

Chapter 3.1

3.1.1.4 Delete "or "inhibited"".

3.1.2.1 Add "but may be used." at the end of last sentence.

3.1.3.2 Add the following second sentence:

"In addition, the concentration of the solution or mixture may also be indicated, e.g., "ACETONE 75% SOLUTION".

Chapter 3.2

3.2.1 Replace the description of column 8 with the following:

"Packing instruction" - This column contains alpha numeric codes which refer to the relevant packing instructions specified in section 4.1.4. The packing instructions indicate the packaging (including IBCs and large packagings), which may be used for the transport of substances and articles.

A code including the letter "P" refers to packing instructions for the use of packagings described in Chapters 6.1, 6.2 or 6.3.

A code including the letters "IBC" refers to packing instructions for the use of IBCs described in Chapter 6.5.

A code including the letters "LP" refers to packing instructions for the use of large packagings described in Chapter 6.6.

When a particular code is not provided, it means the substance is not authorized in the type of packaging that may be used according to the packing instructions bearing that code.

When N/R is included in the column it means that the substance or article need not be packaged.

The packing instructions are listed in numerical order in section 4.1.4 as follows:

Sub-section 4.1.4.1: Packing instructions concerning the use of packagings (except IBCs and large packagings) (P)
Sub-section 4.1.4.2: Packing instructions concerning the use of IBCs
Sub-section 4.1.4.3: Packing instructions concerning the use of large packagings (LP).

3.2.1 Under description of column 9, add the following text:

"A special packing provision including the letters "PP" refers to special packing provision applicable to the use of packing instructions bearing the Code P in Chapter 4.1.

A special packing provision including the letter "B" refers to special packing provision applicable to the use of packing instructions bearing the code IBC in Chapter 4.1.

A special provision including the letter "L" refers to special packing provision applicable to packing instructions bearing the code "LP" in Chapter 4.1."

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***NOTE**: For the allocation of P, IBC and LP Codes in column (8), PP, B and L Codes in column (9), T codes in column (10) and TP codes in column (11), refer to document ST/SG/AC.10/1998/25/Add.3.*

1. Amend as follows:

UN 1002 Insert special provision "292" in column (6).

UN 1086 Delete "VINYL CHLORIDE, INHIBITED or" in column (2).

UN 1210	Amend the name in column (2) to read: "PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable"
UN 1305	Delete "INHIBITED" from the description in column (2).
UN 1331	Insert special provision "293" in column (6).
UN 1408	Replace special provision "40" by "223" in column (6).
UN 1829	Delete "SULPHUR TRIOXIDE, INHIBITED or" in column (2) and replace "TP2" with "TP4" and insert "TP25, TP26" in column (11).
UN 1845	Insert special provision "297" in column (6).
UN 1944	Insert special provision "293" and "294" in column (6).
UN 1945	Insert special provision "294" in column (6).
UN 2054	Replace "3" with "8" in column (3) and insert "3" in column (4). Replace "III" with "I" in column (5) and replace "5L" with "NONE" in column (7). Replace "T2" with "T10" in column (10) and replace "TP1" with "TP2, TP9" in column (11).
UN 2250	Insert "T7" in column (10) and "TP3" in column (11).
UN 2254	Insert special provision "293" in column (6).
UN 2447	Insert "TP26" in column (11).
UN 2530	Delete.
UN 2531	Replace "III" with "II" in column (5).
UN 2794	Insert special provision "295" in column (6).
UN 2795	Insert special provision "295" in column (6).
UN 2990	Insert special provision "296" in column (6).
UN 3028	Insert special provision "295" in column (6).
UN 3057	Insert "TP21" in column (11).
UN 3072	Insert special provision "296" in column (6).

UN 3090 Insert special provision "287" in column (6).

UN 3176 Insert "TP26" in column (11).

UN 3268 Insert special provision "289" in column (6).

UN 3270 Insert special provision "286" in column (6) and amend the name in column (2) to read as follows:

"NITROCELLULOSE MEMBRANE FILTERS, with not more than 12.6% nitrogen, by dry mass".

UN 3353 Insert special provision "289" in column (6).

2. Add the following new entries:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
0501	PROPELLANT, SOLID	1.4C				NONE	P 114(b)			
0502	ROCKETS with inert head	1.2C				NONE	P 130	PP 67		
0503	AIR BAG INFLATORS, PYROTECHNIC or AIR BAG MODULES, PYROTECHNIC or SEAT-BELT PRETENSIONERS, PYROTECHNIC	1.4G			289	NONE	P 135			
0504	1H-TETRAZOLE	1.1D					P 112(c)	PP 48		
3357	NITROGLYCERIN MIXTURE, DESENSITIZED, LIQUID, N.O.S. with not more than 30% nitroglycerin, by mass	3		II	109, 274, 288					
3358	REFRIGERATING MACHINES containing flammable, non toxic, liquefied gas	2.1			291	NONE	P003	PP 32		

3. Insert portable tank instruction "T50" in column (10) of the Dangerous Goods List for the following entries:

UN 1060, UN 1078, UN 2035, UN 3057, UN 3070, UN 3161 and UN 3163.

4. Add portable tank instruction "T23" in column (10) of the Dangerous Goods List for the following entries: UN 3229, UN 3230, UN 3239 and UN 3240.

5. Replace "INHIBITED" with "STABILIZED" in column (2) of the Dangerous Goods List for the following entries:

UN 1010, UN 1081, UN 1082, UN 1085, UN 1087, UN 1092, UN 1093, UN 1167, UN 1185, UN 1218, UN 1246, UN 1247, UN 1301, UN 1302, UN 1303, UN 1304, UN 1305, UN 1545, UN 1589, UN 1860, UN 1917, UN 1919, UN 1921, UN 1991, UN 2055, UN 2075, UN 2200, UN 2218, UN 2227, UN 2251, UN 2283, UN 2348, UN 2352, UN 2396, UN 2452, UN 2521, UN 2527, UN 2531, UN 2618, UN 2838, UN 3073 and UN 3079.

Chapter 3.3

Section 3.3.1

Special provisions

SP15 Replace "special provisions with respect to packaging." with "packing instruction P405." at the end of this special provision.

SP 25 Delete.

SP 29 Delete "and packaging tests".

SP 40 Delete.

SP 76 Delete.

SP 80 Delete.

SP 114 Delete.

SP 117 Add at the end, the following two sentences:

"Fish meal or fish scrap shall not be transported if the temperature at the time of loading exceeds 35 °C or 5 °C above the ambient temperature, whichever is higher. Fish scrap or fish meal shall contain at least 100 ppm of anti-oxidant (ethoxyquin) at the time of shipment."

SP 123 Delete.

SP 132 Delete the first sentence.

SP 133 Amend to read as follows:

"133 When this substance is packed in accordance with P409, the "EXPLOSIVE" label may be dispensed with."

SP 162 Amend to read as follows:

"162 Mixtures with a flash point less than 23 °C shall bear a FLAMMABLE LIQUID subsidiary risk label."

SP 170 Delete.

SP 171 Delete.

SP 187 Delete.

SP 188 (a) Amend to read as follows:

"(a) For a lithium metal or lithium alloy cell with a liquid cathode, the lithium content is not more than 0.5 g, for a lithium metal or lithium alloy cell with a solid cathode, the lithium content is not more than 1 g, and for a lithium-ion cell, the equivalent lithium content is not more than 1.5 g;"

(b) Amend to read as follows:

"(b) For a lithium metal or lithium alloy battery with liquid cathodes, the aggregate lithium content is not more than 1 g, for a lithium metal or lithium alloy battery with solid cathodes, the aggregate lithium content is not more than 2 g, and for a lithium-ion battery, the aggregate equivalent lithium content is not more than 8 g;"

(f) Amend the beginning to read as follows:

"(f) If, when fully charged, the aggregate lithium content of the anodes in a liquid cathode battery is more than 0.5 g, or of the aggregate lithium content of the anodes in a solid cathode battery is more than 1 g, it does not contain a liquid or gas..."
[remainder unchanged].

(g) Amend to read as follows:

"(g) The lithium content of the anode of each cell, when fully charged, is not more than 5 g;"

(h) Amend to read as follows:

"(h) The aggregate lithium content of the anodes of each battery, when fully charged, is not more than 25 g;"

Add the following sentence at the end of SP188:

"As used above and elsewhere in these Regulations, "lithium content" means the mass of lithium in the anode of a lithium metal or lithium alloy cell, except in the case of a lithium-ion cell the "equivalent lithium content" in grams is calculated to be 0.3 times the rated capacity in ampere-hours."

SP 201 Delete the sixth sentence.

SP 209 Delete the last sentence.

SP 214 Delete.

SP 215 Delete the second and third paragraphs.

SP 216 Delete the second sentence.

SP 217 Delete the second sentence.

SP 218 Delete the second sentence.

SP 219 Delete the first sentence.

SP 221 Delete "and shall have a maximum net quantity per package of 5 litres or 5 kg".

SP 229 Delete.

SP 230 Add a new first sentence to read:

"This entry applies to cells and batteries containing lithium in any form, including lithium polymer and lithium ion cells and batteries."

Delete (b), (c) and (g), and renumber consequently.

Amend existing sub-paragraph (f) (new (d)) to read as follows:

"(d) Each battery containing cells or series of cells connected in parallel is equipped with effective means as necessary to prevent dangerous reverse current flow (e.g., diodes, fuses, etc.);"

SP 231 Delete.

SP 233 Delete.

SP 235 Delete the third and the last sentences.

SP 236 Delete "each separately packed in an inner packaging" in the first sentence.
Delete "and be limited to a quantity of 125 ml per inner packaging if liquid, and 500 g if solid" in the second sentence.
Delete the third sentence.

SP 237 Amend to read as follows:

"237 The membrane filters, including paper separators, coating or backing materials, etc., that are present in transport, shall not be liable to propagate a detonation as tested by one of the tests described in the Manual of Tests and Criteria, Part I, Test series 1(a).

In addition, the competent authority may determine, on the basis of the results of suitable burning rate tests taking account of the standard tests in the Manual of Tests and Criteria, Part III, sub-section 33.2.1, that nitrocellulose membrane filters in the form in which they are to be transported are not subject to the provisions of these Regulations applicable to flammable solids in Division 4.1."

SP 238 Delete the last sentence.

SP 239 Delete the second and third sentences of the second paragraph.
Delete the last sentence of the third paragraph.

SP 240 Replace "or sodium batteries" by ", sodium batteries or lithium batteries".

SP 248 Delete.

SP 251 Delete the second and fourth sentences of the second paragraph.
Delete the third paragraph.

SP 269 Delete.

SP 280 Delete the two last sentences.

SP 283 Amend to read as follows:

"283 Articles, containing gas, intended to function as shock absorbers, including impact energy-absorbing devices, or pneumatic springs are not subject to these Model Regulations provided each article:

(a) each article has a gas space capacity not exceeding 1.6 litres and a charge pressure not exceeding 280 bar where the product of the capacity (litres) and charge pressure (bars) does not exceed 80 (i.e 0.5 litre gas space and 160 bar charge pressure, 1 litre gas space and 80 bar charge pressure, 1.6 litre gas space and 50 bar charge pressure, 0.28 litre gas space and 280 bar charge pressure);

(b) each article has a minimum burst pressure of 4 times the charge pressure at 20°C for products not exceeding 0.5 litre gas space capacity and 5 times charge pressure for products greater than 0.5 litre gas space capacity;

(c) each article is manufactured from material which will not fragment upon rupture;

(d) each article is manufactured in accordance with a quality assurance standard acceptable to the competent authority; and

(e) the design type has been subjected to a fire test demonstrating that pressure in the article is relieved by means of a fire degradable seal or other pressure relief device, such that the article will not fragment and that the article does not rocket."

SP 284 Delete "In addition to the requirements of Packing Group II applicable to the package," in sub-paragraph (b).
Delete the sub-paragraph (d).

SP 286 Add the following new special provision:

"286 Nitrocellulose membrane filters covered by this entry, each with a mass not exceeding 0.5g, are not subject to these Regulations when contained individually in an article or a sealed packet."

SP 287 Add the following new special provision:

"287 New, uncycled and uncharged lithium ion cells and batteries are not subject to these Regulations if:

(a) the electrolyte does not meet the definition of any class or division in these Regulations; or

(b) the electrolyte meets the definition of a hazard class or division in these Regulations, the electrolyte will not flow from a ruptured or cracked case and there is no free liquid to flow."

SP 288 Add the following new special provision:

"288 These substances shall not be classified and transported unless authorized by the competent authority on the basis of results from Series 2 tests and a Series 6(c) test on packages as prepared for transport (see 2.1.3.1).

SP 289 Add the following new special provision:

"289 Air bags or seat-belts installed in vehicles or in completed vehicle components such as steering columns, door panels, seats etc. are not subject to these Regulations."

SP 291 Add the following new special provision:

"291 Flammable liquefied gases shall be contained within refrigerating machine components. These components shall be designed and tested to at least three times the working pressure of the machinery. The refrigerating machines shall be designed and constructed to contain the liquefied gas and preclude the risk of bursting or cracking of the pressure retaining components during normal conditions of transport. Refrigerating machines are considered not subject to these Regulations if containing less than 12 kg of gas."

SP 292 Add the following new special provision:

"292 Only mixtures with not more than 23.5% oxygen may be transported under this entry. A Division 5.1 subsidiary risk label is not required for any concentrations within this limit."

SP 293 Add the following new special provision:

"293 The following definitions apply to matches:

(a) Fusee matches are matches the heads of which are prepared with a friction-sensitive igniter composition and a pyrotechnic composition which burns with little or no flame, but with intense heat;

(b) Safety matches are combined with or attached to the box, book or card that can be ignited by friction only on a prepared surface;

(c) Strike anywhere matches are matches that can be ignited by friction on a solid surface;

(d) Wax Vesta matches are matches that can be ignited by friction either on a prepared surface or on a solid surface."

SP 294 Add the following new special provision:

"294 Safety matches and wax "Vesta" matches in outer packagings not exceeding 25 kg net mass are not subject to any other requirement (except marking) of this Model Regulation when packaged in accordance with packing instruction P406."

SP 295 Add the following new special provision:

"295 Batteries need not be individually marked and labelled if the pallet bears the appropiate mark and label."

SP 296 Add the following new special provision:

"296 These articles may contain:

(a) Division 2.2 compressed gases;

(b) signal devices (Class 1) which may include smoke and illumination signal flares; signal devices must be packed in plastic or fibreboard inner packagings;

(c) electric storage batteries;

(d) first aid kits; or

(e) strike anywhere matches."

SP 297 Add the following new special provision:

"297 For each shipment by air exceeding 2.3 kg per package, advance arrangements shall be made between the shipper and each carrier. Not more than 200 kg of solid carbon dioxide may be transported in any one cargo compertment or bin on any aircraft except by specific and special written arrangement between the shipper and the aircraft operator.

Transport units containing solid carbon dioxide, when transported on board ocean vessels, shall be conspicuously marked on two sides "WARNING CO2 SOLID (DRY ICE)". Other packagings containing solid carbon dioxide, when transported on board ocean vessels, shall be marked "CARBON DIOXIDE, SOLID-DO NOT STOW BELOW DECK".

Carbon dioxide, solid (dry ice) is excepted from the shipping paper requirements if the package is marked "Carbon dioxide, solid" or "Dry ice" and is marked with an indication that the substance being refrigerated is used for diagnostic or treatment purposes (e.g., frozen medical specimens)."

Chapter 4.1

Replace Chapter 4.1 by the revised Chapter in ST/SG/AC.10/25/Add.4.

Chapter 4.2

4.2.1.1 Replace "(T1 to T34)" with "(T1-T23)" in the third sentence.

4.2.1.9.6 (a) Add "or maximum temperature of the substance during transport in the case of a heated substance" after "at 20°C,".

4.2.1.9.7 Add the following new paragraph:

"4.2.1.9.7 Forklift pockets of portable tanks shall be closed off when the tank is filled. This provision does not apply to portable tanks which according to 6.6.3.13.4 need not be provided with a means of closing off the forklift pockets."

4.2.1.11 Add "(other than Division 4.1 self-reactive substances)" after "Class 4 substances".

4.2.1.11.1 Delete existing text and insert "[reserved]".

Add the following Note:

"***Note**: For Division 4.1 self-reactive substances, see 4.2.1.13.1.*"

4.2.1.13 Insert "and Division 4.1 self-reactive substances" after "Division 5.2 substances."

4.2.1.13.1 Replace "Organic peroxide" with "substance".

4.2.1.13.2 Replace "organic peroxides (Type F)" with "Type F organic peroxides or Type F self-reactive substances" in the first sentence.

Replace "organic peroxide" with "substance" in the second sentence.

4.2.1.13.3 Insert "or self-reactive substances" after "organic peroxides".

4.2.1.13.6 Replace "organic peroxide" with "substances".

4.2.1.13.8 Add ", or a combination of the two," after "types".

4.2.1.13.11
4.2.1.13.12
4.2.1.13.14 } Replace "organic peroxide" with "substances".

4.2.1.13.15 Insert "and self-reactive substances" after "organic peroxides" and replace "T34" with "T23".

4.2.2.9 Add the following new paragraph:

"4.2.2.9 Forklift pockets of portable tanks shall be closed off when the tank is filled. This provision does not apply to portable tanks which according to 6.6.4.12.4 need not be provided with a means of closing off the forklift pockets."

4.2.3.9 Add the following new paragraph:

"4.2.3.9 Forklift pockets of portable tanks shall be closed off when the tank is filled. This provision does not apply to portable tanks which according to 6.6.4.12.4, as appropriate, need not be provided with a means of closing off the forklift pockets."

4.2.4.1.1 Replace "(T1 to T36)" with "(e.g. T1)" in the second sentence.
Replace "(TP1 to TP24)" with "(e.g. TP1)" in the last sentence..

4.2.4.2.2 Delete "(T1-T34)" in the first sentence.

Amend the second sentence to read as follows:

"In T23, self-reactive substances of Division 4.1 and Division 5.2 organic peroxides permitted to be transported in portable tanks are listed along with the applicable control and emergency temperatures."

4.2.4.2.5 Replace the existing table with the following:

Portable tank instruction specified	Portable tank instructions also permitted
T1	T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T2	T4, T5, T6, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T3	T4, T5, T6, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T4	T5, T6, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T5	T10, T12, T14, T16, T18, T19, T20, T22
T6	T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T7	T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T8	T9, T10, T13, T14, T19, T20, T21, T22
T9	T10, T13, T14, T19, T20, T21, T22
T10	T14, T19, T20, T22
T11	T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T12	T14, T16, T18, T19, T20, T22
T13	T14, T19, T20, T21, T22
T14	T19, T20, T22
T15	T16, T17, T18, T19, T20, T21, T22
T16	T18, T19, T20, T22
T17	T18, T19, T20, T21, T22
T18	T19, T20, T22
T19	T20, T22
T20	T22
T21	T22
T22	None
T23	None

4.2.4.2.6/
T1-T33 Replace the table with the following:

T1 - T22	PORTABLE TANK INSTRUCTIONS			T1 -T22
These portable tank instructions apply to liquid and solid substances of Classes 3 to 9. The general provisions of section 4.2.1 and the requirements of section 6.6.2 shall be met.				
Portable tank instruction	**Minimum test pressure (bar)**	**Minimum shell thickness (in mm-reference steel) (see 6.2.4)**	**Pressure-relief requirements (see 6.6.2.8)**	**Bottom opening requirements (see 6.6.2.6)**
T1	1.5	See 6.6.2.4.2	Normal	See 6.6.2.6.2
T2	1.5	See 6.6.2.4.2	Normal	See 6.6.2.6.3
T3	2.65	See 6.6.2.4.2	Normal	See 6.6.2.6.2
T4	2.65	See 6.6.2.4.2	Normal	See 6.6.2.6.3
T5	2.65	See 6.6.2.4.2	See 6.6.2.8.3	Not Allowed
T6	4	See 6.6.2.4.2	Normal	See 6.6.2.6.2
T7	4	See 6.6.2.4.2	Normal	See 6.6.2.6.3
T8	4	See 6.6.2.4.2	Normal	Not allowed
T9	4	6mm	Normal	Not allowed
T10	4	6mm	See 6.6.2.8.3	Not allowed
T11	6	See 6.6.2.4.2	Normal	See 6.6.2.6.3
T12	6	See 6.6.2.4.2	See 6.6.2.8.3	See 6.6.2.6.3
T13	6	6mm	Normal	Not allowed
T14	6	6mm	See 6.6.2.8.3	Not allowed
T15	10	See 6.6.2.4.2	Normal	See 6.6.2.6.3
T16	10	See 6.6.2.4.2	See 6.6.2.8.3	See 6.6.2.6.3
T17	10	6mm	Normal	See 6.6.2.6.3
T18	10	6mm	See 6.6.2.8.3	See 6.6.2.6.3
T19	10	6mm	See 6.6.2.8.3	Not allowed
T20	10	8mm	See 6.6.2.8.3	Not allowed
T21	10	10mm	Normal	Not allowed
T22	10	10mm	See 6.6.2.8.3	Not allowed

4.2.4.2.6/
T34 1. Amend the heading of portable tank instruction T34 to read as follows:

"

T23	PORTABLE TANK INSTRUCTION							T23
This portable tank instruction applies to self-reactive substances of Division 4.1 and to Division 5.2 organic peroxides. The general provisions of section 4.2.1 and the requirements of section 6.6.2 shall be met. The provisions specific to self-reactive substances of Division 4.1 and organic peroxides of Division 5.2 in 4.2.1.13 shall also be met.								
UN No.	Substance	Min. test pressure (bar)	Min. shell thickness (mm-reference steel)	Bottom opening requir-ements	Pressure relief requir-ements	Filling limits	Control temp-erature	Emergency temp-erature

"

2. Add the following new entries:

3229	SELF-REACTIVE LIQUID TYPE F	4	See 6.6.2.4.2	See 6.6.2.6.3	See 6.6.2.8.2 4.2.1.13.6 4.2.1.13.7 4.2.1.13.8	See 4.2.1.13.13		
3230	SELF-REACTIVE SOLID TYPE F	4	See 6.6.2.4.2	See 6.6.2.6.3	See 6.6.2.8.2 4.2.1.13.6 4.2.1.13.7 4.2.1.13.8	See 4.2.1.13.13		
3239	SELF-REACTIVE LIQUID TYPE F, TEMPERATURE CONTROLLED	4	See 6.6.2.4.2	See 6.6.2.6.3	See 6.6.2.8.2 4.2.1.13.6 4.2.1.13.7 4.2.1.13.8	See 4.2.1.13.13	*/	*/
3240	SELF-REACTIVE SOLID TYPE F, TEMPERATURE CONTROLLED	4	See 6.6.2.4.2	See 6.6.2.6.3	See 6.6.2.8.2 4.2.1.13.6 4.2.1.13.7 4.2.1.13.8	See 4.2.1.13.13	*/	*/

"

3. Add an asterisk in the columns "Control temperature" and "Emergency temperature" for UN 3119 and UN 3120 and add the following footnote:

*/ As approved by the competent authority.

4. Under UN 3119, amend as follows:

Replace "+10 °C" by "+15 °C" in the column headed "Control temperature" and "+15 °C" by "+20 °C" in the column headed "Emergency temperature" for the entry "tert-Butyl peroxy-2-ethylhexanoate, not more than 32% in diluent type B" .

Replace "-5 °C" by "+5 °C" in the column headed "Control temperature" and "+5 °C" by "+10 °C" in the column headed "Emergency temperature" for the entry "tert-Butyl peroxypivalate, not more than 27% in diluent type B".

Replace "-10 °C" by "0 °C" in the column headed "Control temperature" and "0 °C" by "+5 °C" in the column headed "Emergency temperature" for the entry "Di-(3,5,5-trimethylhexanoyl) peroxide, not more than 38% in diluent type A".

4.2.4.2.6/
T50 Replace "INHIBITED" with "STABILIZED" in the column "Non-refrigerated liquefied gases" for the following UN entries:

UN 1010, UN 1082, UN 1085 and UN 1087.

Delete "VINYL CHLORIDE, INHIBITED or" in the column "Non-refrigerated liquefied gases" for UN 1086.

4.2.4.2.6/
T50 Add the following new entries:

"

UN No.	Non-refrigerated liquefied gases	Max. allowable working pressure (bar) Small; Bare; Sunshield; Insulated	Openings below liquid level	Pressure relief requirements	Maximum filling ratio (kg/l)
1060	Methylacetylene and propadiene mixture, stabilized	28.0 24.5 22.0 20.0	Allowed	Normal	0.43
1078	Refrigerant gas, n.o.s.	See MAWP definition in 6.6.3.1	Allowed	Normal	4.2.2.7
2035	1,1,1-Trifluoroethane (Refrigerant gas R 143a)	31.0 27.5 24.2 21.8	Allowed	Normal	0.76
3057	Trifluoroacetyl chloride	14.6 12.9 11.3 9.9	Not allowed	6.6.3.7.3	1.17
3070	Ethylene oxide and dichlorodifluoromethane mixture with not more than 12.5% ethylene oxide	14.0 12.0 11.0 9.0	Allowed	6.6.3.7.3	1.09
3161	Liquefied gas, flammable, n.o.s.	See MAWPdefinition in 6.6.3.1	Allowed	Normal	See 4.2.2.7
3163	Liquefied gas, n.o.s.	See MAWP definition in 6.6.3.1	Allowed	Normal	See 4.2.2.7

"

4.2.4.3 Delete the following portable tank special provisions: TP 11, TP14 and TP15.

Add new portable tank special provisions TP25, TP26, TP27, TP28 and TP29 to read as follows:

"TP25 Sulphur trioxide 99.95% pure and above may be transported in tanks without an inhibitor provided that it is maintained at a temperature equal to or above 32.5°C.

TP26 When transported under heated conditions, the heating device shall be fitted outside the shell. For UN 3176 this requirement only applies when the substance reacts dangerously with water.

TP27 A portable tank having a minimum test pressure of 4 bar may be used if it is shown that a test pressure of 4 bar or less is acceptable according to the test pressure definition in 6.6.2.1.

TP28 A portable tank having a minimum test pressure of 2.65 bar may be used if it is shown that a test pressure of 2.65 bar or less is acceptable according to the test pressure definition in 6.6.2.1.

TP29 A portable tank having a minimum test pressure of 1.5 bar may be used if it is shown that a test pressure of 1.5 bar or less is acceptable according to the test pressure definition in 6.6.2.1."

Chapter 5.2

5.2.2.1.1 Add "and subsidiary" after "primary" and replace "5.2.2.2.2.1" with "5.2.2.2.2" in the first sentence.

Replace the second sentence with the following:

"The "EXPLOSIVE" subsidiary risk label is model No.1."

5.2.2.1.2 Add "shall be affixed" after "risk label" and replace "hazard" with "risk" in the first sentence.

5.2.2.1.3 Replace "hazard" with "risk" twice in the first and second sentences.

5.2.2.1.3.1 Delete "0" in "No. 06.1" and "No. 04.1".

5.2.2.1.4 In the table:

Replace "05" with "5.1" in column "Subsidiary risk label(s)" for second row of Division 2.2.

Replace "03" with "2.1" in column "Subsidiary risk label(s)" for second row of Division 2.3.

Replace "05" with "5.1" in column "Subsidiary risk label(s)" for third row of Division 2.3.

Replace "05, 08" with "5.1, 8" in column "Subsidiary risk label(s)" for fourth row of Division 2.3.

Replace "08" with "8" in column "Subsidiary risk label(s)" for fifth row of Division 2.3.

Replace "03, 08" with "2.1, 8" in column "Subsidiary risk label(s)" for sixth row of Division 2.3.

5.2.2.1.5 Delete the last sentence.

5.2.2.1.6(c) Replace "hazard" with "risk".

5.2.2.1.9 Delete "(model No. 03)".

5.2.2.1.9(a) Delete "0" in "(model no. 01)".

5.2.2.1.9(b) Delete "0" in "(model no. 08)".

5.2.2.1.10 Replace "hazard" with "risk".

5.2.2.2.1.4 Delete "it" in the fourth sentence.

5.2.2.2.1.5 Delete this paragraph and renumber the remaiding paragraphs consequently.

5.2.2.2.1.7 (Renumbered par. 5.2.2.2.1.6) Replace "texts" with "text" and add "for" after "except" in this sentence.

5.2.2.2.2 Delete "5.2.2.2.2.1 *Specimen primary risks labels*".

In the text following the labels for Class 1, Replace:

"** Place for division
* Place for compatibility group"

with:

"** Place for division - to be left blank if explosive is the subsidiary risk
* Place for compatibility group - to be left blank if explosive is the subsidiary risk".

In the text following the label (No. 5.1), replace "Oxydizing" with "Oxidizing".

5.2.2.2.2.2 Delete text and labels.

Chapter 5.4

5.4.1.1.5.2 Delete "(model no. 01)".

5.4.1.2.2 Add ", with no additional information interspersed" at the end of the first sentence.

Chapter 6.1

6.1.1.4 Add the following new paragraph:

"6.1.1.4 Packagings shall be manufactured and tested under a quality assurance programme which satisfies the competent authority in order to ensure that each manufactured packaging meets the requirements of this Chapter."

6.1.2.7 In the table, under "1. Drums" , insert at the end:

"

kind	Material	Category	Code	Paragraph
N.	Metal, other than steel or aluminium	non-removable head	N1	6.1.4.3
		removable head	N2	

"

6.1.4.3 Insert the following new sub-section 6.1.4.3 (and renumber accordingly existing sub-section 6.1.4.3 and following sub-sections, as well as all corresponding cross-references).

"6.1.4.3 Drums of metal other than aluminium or steel

1N1 non-removable head
1N2 removable head.

6.1.4.3.1 The body and heads shall be constructed of a metal or of a metal alloy other than steel or aluminium. Material shall be of a suitable type and of adequate thickness in relation to the capacity of the drum and to its intended use.

6.1.4.3.2 Chime seams, if any, shall be reinforced by the application of separate reinforcing rings. All seams, if any, shall be joined (welded, solded, etc.) in accordance with the technical state of the art for the used metal or metal alloy.

6.1.4.3.3 The body of a drum of a capacity greater than 60 litres shall, in general, have at least two expanded rolling hoops or, alternatively, at least two separate rolling hoops. If there are separate rolling hoops they shall be fitted tightly on the body and so secured that they cannot shift. Rolling hoops shall not be spot welded.

6.1.4.3.4 Openings for filling, emptying and venting in the bodies or heads of non-removable head (1N1) drums shall not exceed 7 cm in diameter. Drums with larger openings are considered to be of the removable head type (1N2). Closures for openings in the bodies and heads of drums shall be so designed and applied that they will remain secure and leakproof under normal conditions of transport. Closure flanges shall be joined in place (welded, solded, etc.) in accordance with the technical state of the art for the used metal or metal alloy so that the seam join is leakproof. Gaskets or other sealing elements shall be used with closures, unless the closure is inherently leakproof.

6.1.4.3.5 Closure devices for removable head drums shall be so designed and applied that they will remain secure and drums will remain leakproof under normal conditions of transport. Gaskets or other sealing elements shall be used with all removable heads.

6.1.4.3.6 Maximum capacity of drum: 450 litres.

6.1.4.3.7 Maximum net mass: 400 kg."

6.1.5.3.1 In the table, insert "Metal drums, other than steel or aluminium drums" under "Aluminium drums".

Chapter 6.3

6.3.2.6(b) Read the last sentence as follows:

"Following each impact, there shall be no leakage from the primary receptacle(s)."

Chapter 6.5

6.5.1.2 Delete the definition of Liner.

6.5.1.4.1(a) Amend the heading of table as follows:

"For solids, loaded or discharged"

6.5.1.4.4 Add the following new paragraph:

"6.5.1.4.4 The letter "W" may follow the IBC code. The letter "W" signifies that the IBC, although of the same type indicated by the code, is manufactured to a specification different from those in section 6.5.3 and is considered equivalent in accordance with the requirements in 6.5.1.1.2."

6.5.2.1.1 Amend the first sentence to read as follows:

"Each IBC manufactured and intended for use according to these Regulations shall bear markings which are durable, legible and placed in a location so as to be readily visible. Letters, numerals and symbols shall be at least 12 mm high and shall show:"

6.5.2.2.4 Amend to read as follows:

"6.5.2.2.4 Where a composite IBC is designed in such a manner that the outer casing is intended to be dismantled for transport when empty (such as for return of the IBC for reuse to the original consignor), each of the parts intended to be detached when so dismantled shall be marked with the month and year of manufacture and the name or symbol of the manufacturer and other identification of the IBC as specified by the competent authority (6.5.2.1.1(f))."

6.5.3.1.1(c) Delete the second sentence.

6.5.3.1.6 In sub-paragraph (a), replace the existing table with the following new table:

"

Capacity (C) in litres	Wall thickness (T) in mm			
	Types 11A, 11B, 11N		Types 21A, 21B, 21N, 31A, 31B, 31N	
	Unprotected	Protected	Unprotected	Protected
$C \leq 1000$	2.0	1.5	2.5	2.0
$1000 < C \leq 2000$	$T = C/2000 + 1.5$	$T = C/2000 + 1.0$	$T = C/2000 + 2.0$	$T = C/2000 + 1.5$
$2000 < C \leq 3000$	$T = C/2000 + 1.5$	$T = C/2000 + 1.0$	$T = C/1000 + 1.0$	$T = C/2000 + 1.5$

"

In sub-paragraph (b), add "(see (c))" at the end of the definition of the variable Rm_1.

Add a new sub-paragraph (c) as follows:

"(c) For purposes of the calculation described in (b), the guaranteed minimum tensile strength of the metal to be used (Rm_1) shall be the minimum value according to national or international material standards.
However, for austenitic steels, the specified minimum value for Rm according to the material standards may be increased by up to 15% when a greater value is attested in the material inspection certificate. When no material standard exists for the material in question, the value of Rm shall be the minimum value attested in the material inspection certificate."

6.5.3.1.7	Replace "4.1.3.2" by "4.1.1.4".
6.5.4.3.5	Replace "31 C" with "31 N" in the first box of the first column.
6.5.4.5.2	Amend "its" to "their" (twice).
6.5.4.6.3 (a) (iii)	Insert "other" before "types".
6.5.4.7.1	Insert "a" before "design".
6.5.4.8.4.2	Replace "4.1.2.2" by "4.1.1.4".
6.5.4.8.5 (c)	Amend "renders" to "would render".
6.5.4.9.3	Delete "(d)" and move sentence "The same or different... each drop." to the far left. Change semi-colon to fullstop at end of (c).

Chapter 6.6

Renumber existing Chapter 6.6 as Chapter 6.7 and insert a new Chapter 6.6 as follows:

"**CHAPTER 6.6**

REQUIREMENTS FOR THE CONSTRUCTION AND TESTING OF LARGE PACKAGINGS

6.6.1 General

6.6.1.1 The requirements of this Chapter do not apply to:

- Class 2, except articles including aerosols;
- Class 6.2, except clinical waste of UN 3291;
- Class 7 packages containing radioactive material.

6.6.1.2 Large packagings shall be manufactured and tested under a quality assurance programme which satisfies the competent authority in order to ensure that each manufactured packaging meets the requirements of this Chapter.

6.6.2 Code for designating types of large packagings

The code used for large packagings consist of:

(a) two Arabic numerals:

50 for rigid large packagings; or
51 for flexible large packagings; and

(b) capital letters in Latin characters indicating the nature of the material, e.g. wood, steel etc. The capital letters used shall be those shown in 6.1.2.6.

6.6.3 Marking

6.6.3.1 *Primary marking*. Each large packaging manufactured and intended for the use according to these Regulations shall bear durable and legible markings showing:

(a) the United Nations packaging symbol

;

For metal large packagings on which the marking is stamped or embossed, the capital letters "UN" may be applied instead of the symbol;

(b) the code "50" designating a large rigid packaging or "51" for flexible large packagings, followed by the material type in accordance with 6.5.1.4.1(b);

(c) a capital letter designating the packing group(s) for which the design type has been approved:

X for packing groups I, II and III
Y for packing groups II and III
Z for packing group III only;

(d) the month and year (last two digits) of manufacture;

(e) the State authorising the allocation of the mark; indicated by the distinguishing sign for motor vehicles in international traffic;

(f) the name or symbol of the manufacturer and other identification of the large packagings as specified by the competent authority;

(g) the stacking test load in kg. For large packagings not designed for stacking the figure "0" shall be shown;

(h) the maximum permissible gross mass in kilograms.

The primary marking required above shall be applied in the sequence of the sub-paragraphs.

6.6.3.2 *Examples of the marking*:

u n	50 A/X/05 2500/1000	96/N/PQRS	For a large steel packaging suitable for stacking; stacking load: 2500 kg; maximum gross mass: 1000 kg.
u n	50 H/Y04 0/800	95/D/ABCD 987	For a large plastics packaging not suitable for stacking; maximum gross mass: 800 kg.
u n	51H/Z/0697/S/1999 0/500		For a large flexible packaging not suitable for stacking; maximum gross mass: 500 kg.

6.6.4 Specific requirements for large packagings

6.6.4.1 ***Specific requirements for metal large packagings***

50A	steel
50B	aluminium
50N	metal (other than steel or aluminium)

6.6.4.1.1 The large packaging shall be made of suitable ductile metal in which the weldability has been fully demonstrated. Welds shall be skillfully made and afford complete safety. Low-temperature performance shall be taken into account when appropriate.

6.6.4.1.2 Care shall be taken to avoid damage by galvanic action due to the juxtaposition of dissimilar metals.

6.6.4.2 ***Specific requirements for flexible material large packagings***

51H	flexible plastics
51M	flexible paper

6.6.4.2.1 The large packaging shall be manufactured from suitable materials. The strength of the material and the construction of the flexible large packagings shall be appropriate to its capacity and its intended use.

6.6.4.2.2 All materials used in the construction of flexible large packagings of types 51M shall, after complete immersion in water for not less than 24 hours, retain at least 85% of the tensile strength as measured originally on the material conditioned to equilibrium at 67% relative humidity or less.

6.6.4.2.3 Seams shall be formed by stitching, heat sealing, glueing or any equivalent method. All stitched seam-ends shall be secured.

6.6.4.2.4 Flexible large packagings shall provide adequate resistance to ageing and to degradation caused by ultraviolet radiation or the climatic conditions, or by the substance contained, thereby rendering them appropriate to their intended use.

6.6.4.2.5 For plastics flexible large packagings where protection against ultraviolet radiation is required, it shall be provided by the addition of carbon black or other suitable pigments or inhibitors. These additives shall be compatible with the contents and remain effective throughout the life of the large packaging. Where use is made of carbon black, pigments or inhibitors other than those used in the manufacture of the tested design type, re-testing may be waived if changes in the carbon black content, the pigment content or the inhibitor content do not adversely affect the physical properties of the material of construction.

6.6.4.2.6 Additives may be incorporated into the material of the large packaging to improve the resistance to ageing or to serve other purposes, provided that these do not adversely affect the physical or chemical properties of the material.

6.6.4.2.7 When filled, the ratio of height to width shall be not more than 2:1.

6.6.4.3 ***Specific requirements for plastics large packagings***

50H rigid plastics

6.6.4.3.1 The large packaging shall be manufactured from suitable plastics material of known specifications and be of adequate strength in relation to its capacity and its intended use. The material shall be adequately resistant to ageing and to degradation caused by the substance contained or, where relevant, by ultraviolet radiation. Low temperature performance shall be taken into account when appropriate. Any permeation of the substance contained shall not constitute a danger under normal conditions of transport.

6.6.4.3.2 Where protection against ultraviolet radiation is required, it shall be provided by the addition of carbon black or other suitable pigments or inhibitors. These additives shall be compatible with the contents and remain effective throughout the life of the outer packaging. Where use is made of carbon black, pigments or inhibitors other than those used in the manufacture of the tested design type, re-testing may be waived if changes in the carbon black content, the pigment content or the inhibitor content do not adversely affect the physical properties of the material of construction.

6.6.4.3.3 Additives may be incorporated in the material of the large packaging to improve the resistance to ageing or to serve other purposes, provided that these do not adversely affect the physical or chemical properties of the material.

6.6.4.4 ***Specific requirements for fibreboard large packagings***

50G rigid fibreboard

6.6.4.4.1 Strong and good quality solid or double-faced corrugated fibreboard (single or multiwall) shall be used, appropriate to the capacity of the large packagings and to their intended use. The water resistance of the outer surface shall be such that the increase in mass, as determined in a test carried out over a period of 30 minutes by the Cobb method of determining water absorption, is not greater than 155 g/m^2 - see ISO535:1991. It shall have proper bending qualities. Fibreboard shall be cut, creased without scoring, and slotted so as to permit assembly without cracking, surface breaks or undue bending. The fluting or corrugated fibreboard shall be firmly glued to the facings.

6.6.4.4.2 The walls, including top and bottom, shall have a minimum puncture resistance of 15 J measured according to ISO 3036:1975.

6.6.4.4.3 Manufacturing joins in the outer packaging of large packagings shall be made with an appropriate overlap and shall be taped, glued, stitched with metal staples or fastened by other means at least equally effective. Where joins are effected by gluing or taping, a water resistant adhesive shall be used. Metal staples shall pass completely through all pieces to be fastened and be formed or protected so that any inner liner cannot be abraded or punctured by them.

6.6.4.4.4 Any integral pallet base forming part of a large packaging or any detachable pallet shall be suitable for mechanical handling with the large packaging filled to its maximum permissible gross mass.

6.6.4.4.5 The pallet or integral base shall be designed so as to avoid any protrusion of the base of the large packaging that might be liable to damage in handling.

6.6.4.4.6 The body shall be secured to any detachable pallet to ensure stability in handling and transport. Where a detachable pallet is used, its top surface shall be free from sharp protrusions that might damage the large packaging.

6.6.4.4.7 Strengthening devices such as timber supports to increase stacking performance may be used but shall be external to the liner.

6.6.4.4.8 Where large packagings are intended for stacking, the bearing surface shall be such as to distribute the load in a safe manner.

6.6.4.5 ***Specific requirements for wooden large packagings***

50C natural wood
50D plywood

6.6.4.5.1 The strength of the materials used and the method of construction shall be appropriate to the capacity and intended use of the large packagings.

6.6.4.5.2 Natural wood shall be well seasoned, commercially dry and free from defects that would materially lessen the strength of any part of the large packagings. Each part of the large packagings shall consist of one piece or be equivalent thereto. Parts are considered equivalent to one piece when a suitable method of glued assembly is used as for instance Lindermann joint, tongue and groove joint, ship lap or rabbet joint; or butt joint with at least two corrugated metal fasteners at each joint, or when other methods at least equally effective are used.

6.6.4.5.3 Large packagings of plywood shall be at least 3-ply. They shall be made of well seasoned rotary cut, sliced or sawn veneer, commercially dry and free from defects that would materially lessen the strength of the large packaging. All adjacent plies shall be glued with water resistant adhesive. Other suitable materials may be used with plywood for the construction of the large packaging.

6.6.4.5.4 Large packagings of reconstituted wood shall be made of water resistant reconstituted wood such as hardboard, particle board or other suitable type.

6.6.4.5.5 Large packagings shall be firmly nailed or secured to corner posts or ends or be assembled by equally suitable devices.

6.6.4.5.6 Any integral pallet base forming part of a large packaging or any detachable pallet shall be suitable for mechanical handling with the large packaging filled to its maximum permissible gross mass.

6.6.4.5.7 The pallet or integral base shall be designed so as to avoid any protrusion of the base of the large packaging that might be liable to damage in handling.

6.6.4.5.8 The body shall be secured to any detachable pallet to ensure stability in handling and transport. Where a detachable pallet is used, its top surface shall be free from sharp protrusions that might damage the large packaging.

6.6.4.5.9 Strengthening devices such as timber supports to increase stacking performance may be used but shall be external to the liner.

6.6.4.5.10 Where large packagings are intended for stacking, the bearing surface shall be such as to distribute the load in a safe manner.

6.6.5 Test requirements for large packagings

6.6.5.1 *Performance and frequency of test*

6.6.5.1.1 The design type of each large packaging shall be tested as provided in 6.6.5.3 in accordance with procedures established by the competent authority.

6.6.5.1.2 Tests shall be successfully performed on each large packaging design type before such a packaging is used. A large packaging design type is defined by the design, size, material and thickness, manner of construction and packing, but may include various surface treatments. It also includes large packagings which differ from the design type only in their lesser design height.

6.6.5.1.3 Tests shall be repeated on production samples at intervals established by the competent authority. For such tests on fibreboard large packagings, preparation at ambient conditions is considered equivalent to the provisions of 6.6.5.2.3.

6.6.5.1.4 Tests shall also be repeated after each modification which alters the design, material or manner of construction of large packagings.

6.6.5.1.5 The competent authority may permit the selective testing of large packagings that differ only in minor respects from a tested type, e.g. smaller sizes of inner packagings or inner packagings of lower net mass; and large packagings which are produced with small reductions in external dimension(s).

6.6.5.1.6 Where a large packaging has been successfully tested with different types of inner packagings, a variety of such different inner packagings may also be assembled in this large packaging. In addition, provided an equivalent level of performance is maintained, the following variations in inner packagings are allowed without further testing of the package:

(a) Inner packagings of equivalent or smaller size may be used provided:

(i) the inner packagings are of similar design to the tested inner packagings (e.g. shape - round, rectangular, etc);

(ii) the material of construction of the inner packagings (glass, plastics, metal etc.) offers resistance to impact and stacking forces equal to or greater than that of the originally tested inner packaging;

(iii) the inner packagings have the same or smaller openings and the closure is of similar design (e.g. screw cap, friction lid, etc);

(iv) sufficient additional cushioning material is used to take up void spaces and to prevent significant movement of the inner packagings; and

(v) inner packagings are oriented within the large packagings in the same manner as in the tested package;

(b) A lesser number of the tested inner packagings, or of the alternative types of inner packagings identified in (a) above, may be used provided sufficient cushioning is added to fill the void space(s) and to prevent significant movement of the inner packagings.

6.6.5.1.7 The competent authority may at any time require proof, by tests in accordance with this section, that serially-produced large packagings meet the requirements of the design type tests.

6.6.5.1.8 Provided the validity of the test results is not affected and with the approval of the competent authority, several tests may be made on one sample.

6.6.5.2 *Preparation for testing*

6.6.5.2.1 Tests shall be carried out on large packagings prepared as for transport including the inner packagings or articles used. Inner packagings shall be filled to not less than 98% of their maximum capacity for liquids or 95% for solids. For large packagings where the inner packagings are designed to carry liquids and solids, separate testing is required for both liquid and solid contents. The substances in the inner packagings or the articles to be transported in the large packagings may be replaced by other material or articles except where this would invalidate the results of the tests. When other inner packagings or articles are used they shall have the same physical characteristics (mass, etc) as the inner packagings or articles to be carried. It is permissible to use additives, such as bags of lead shot, to achieve the requisite total package mass, so long as they are placed so that the test results are not affected.

6.6.5.2.2 Large packagings made of plastics materials and large packagings containing inner packagings of plastic materials - other than bags intended to contain solids or articles - shall be drop tested when the temperature of the test sample and its contents has been reduced to -18°C or lower. This conditioning may be disregarded if the materials in question are of sufficient ductility and tensile strength at low temperatures. Where test sample are prepared in this way, the conditioning in 6.6.5.2.3 may be waived. Test liquids shall be kept in the liquid state by the addition of anti-freeze if necessary.

6.6.5.2.3 Large packagings of fibreboard shall be conditioned for at least 24 hours in an atmosphere having a controlled temperature and relative humidity (r.h). There are three options, one of which shall be chosen.

The preferred atmosphere is 23 ± 2°C and 50% ± 2% r.h. The two other options are: 20 ± 2°C and 65% ± 2% r.h.; or 27 ± 2°C and 65% ± 2% r.h.

Note: Average values shall fall within these limits. Short term fluctuations and measurement limitations may cause individual measurements to vary by up to ± 5% relative humidity without significant impairment of test reproducibility.

6.6.5.3 ***Test requirements***

6.6.5.3.1 ***Bottom lift test***

6.6.5.3.1.1 *Applicability*

For all types of large packagings which are fitted with means of lifting from the base, as a design type test.

6.6.5.3.1.2 *Preparation of large packagings for test*

The large packagings shall be loaded to [illegible] mass, the load being evenly distributed.

6.6.5.3.1.3 *Method of testing*

The large packagings shall be raised and lowered twice by a lift truck with the forks centrally positioned and spaced at three quarters of the dimension of the side of entry (unless the points of entry are fixed). The forks shall penetrate to three quarters of the direction of entry. The test shall be repeated from each possible direction of entry.

6.6.5.3.1.4 *Criteria for passing the test*

No permanent deformation which renders the large packagings unsafe for transport and no loss of contents.

6.6.5.3.2 *Top lift test*

6.6.5.3.2.1 *Applicability*

For types of large packagings which are intended to be lifted from the top and fitted with means of lifting, as a design type test.

6.6.5.3.2.2 *Preparation of large packagings for test*

The large packagings shall be loaded to twice its maximum permissible gross mass.

6.6.5.3.2.3 *Method of testing*

The large packagings shall be lifted in the manner for which it is designed until clear of the floor and maintained in that position for a period of five minutes.

6.6.5.3.2.4 *Criteria for passing the test*

No permanent deformation which renders the large packagings unsafe for transport and no loss of contents.

6.6.5.3.3 *Stacking test*

6.6.5.3.3.1 *Applicability*

For all types of large packagings which are designed to be stacked on each other, as a design type test.

6.6.5.3.3.2 *Preparation of large packagings for test*

[illegible] shall be filled to its maximum permissible [illegible]

6.6.5.3.3.3 *Method of testing*

The large packagings shall be placed on its base on level hard ground and subjected to a uniformly distributed superimposed test load (see 6.6.5.3.3.4) for a period of at least five minutes, large packagings of wood, fibreboard and plastic materials for a period of 24 h.

6.6.5.3.3.4 *Calculation of superimposed test load*

The load to be placed on the large packagings shall be 1.8 times the combined maximum permissible gross mass of the number of similar large packagings that must be stacked on top of the large packagings during transport.

6.6.5.3.3.5 *Criteria for passing the test*

No permanent deformation which renders the large packagings unsafe for transport and no loss of contents.

6.6.5.3.4 ***Drop test***

6.6.5.3.4.1 *Applicability*

For all types of large packagings as a design type test.

6.6.5.3.4.2 *Preparation of large packagings for testing*

The large packagings shall be filled in accordance with 6.6.5.2.1

6.6.5.3.4.3 *Method of testing*

The large packagings shall be dropped onto a rigid, non-resilient, smooth, flat and horizontal surface, in such a manner as to ensure that the point of impact is that part of the base of the large packagings considered to be the most vulnerable.

6.6.5.3.4.4 *Drop height*

Packing Group I	Packing Group II	Packing Group III
1.8m	1.2m	0.8m

***Note**: Packagings for substances and articles of Class 1, self-reactive substances of Division 4.1 and organic peroxides of Division 5.2 shall be tested at the Packing Group II performance level.*

6.6.5.3.4.5 *Criteria for passing the test*

6.6.5.3.4.5.1 The large packagings shall not exhibit any damage liable to affect safety during transport. There shall be no leakage of the filling substance from inner packaging(s) or article(s).

6.6.5.3.4.5.2 No rupture is permitted in large packagings for articles of Class 1 which would permit the spillage of loose explosive substances or articles from the large packagings.

6.6.5.3.4.5.3 Where a large packagings undergoes a drop test the sample passes the test if the entire contents are retained even if the closure is no longer sift-proof.

6.6.5.4 *Certification and test report*

6.6.5.4.1 In respect of each design type of large packagings a certificate and mark (as in 6.6.3) shall be issued attesting that the design type including its equipment meets the test requirements.

6.6.5.4.2 A test report containing at least the following particulars shall be drawn up and shall be available to the users of the large packagings:

1 Name and address of the test facility;
2 Name and address of applicant (where appropriate);
3 A unique test report identification;
4 Date of the test report;
5 Manufacturer of the large packagings;
6 Description of the large packagings design type (e.g. dimensions, materials, closures, thickness, etc) and/or photograph(s);
7 Maximum capacity/maximum permissible gross mass;
8 Characteristics of test contents, e.g. types and descriptions of inner packagings or articles used;
9 Test descriptions and results;
10 The test report shall be signed with the name and status of the signatory.

6.6.5.4.3 The test report shall contain statements that the large packagings prepared as for transport was tested in accordance with the appropriate provisions of this Chapter and that the use of other packaging methods or components may render it invalid. A copy of the test report shall be available to the competent authority."

Chapter 6.7 (existing Chapter 6.6 renumbered as Chapter 6.7)

6.7.2.11.2 Add the following new paragraph:

[illegible] may be produced in the pursuit [illegible]

6.7.2.12.2 Replace the third sentence by the following:

"These devices may be fusible, spring-loaded or frangible disc components, or a combination of spring-loaded and frangible disc devices."

6.7.2.20.3 Add the following new paragraph:

"6.7.2.20.3 If a portable tank is designed and approved for handling in open seas, the words "OFFSHORE PORTABLE TANK" shall be marked on the identification plate."

6.7.3.16.3 Add the following new paragraph:

"6.7.3.16.3 If a portable tank is designed and approved for handling in open seas, the words "OFFSHORE PORTABLE TANK" shall be marked on the identification plate."

6.7.4.15.3 Add the following new paragraph:

"6.7.4.15.3 If a portable tank is designed and approved for handling in open seas, the words "OFFSHORE PORTABLE TANK" shall be marked on the identification plate."

Chapter 7.1

7.1.1 Add the following three new paragraphs:

"7.1.1.3 Packages containing dangerous goods shall be secured by suitable means in the transport unit in a manner that will prevent any movement during the journey which would change the orientation of the packages or cause them to be damaged.

7.1.1.4 During loading and unloading, packagings containing dangerous goods shall be protected from being damaged. Particular attention shall be paid to the handling of packages during their preparation for transport, to the type of transport unit on which they are to be carried and to the method of loading or unloading, so that accidental damage is not caused through dragging or mishandling of the packages.

7.1.1.5 During transport, IBCs and large packagings shall be securely fixed or packed into the transport unit so as to prevent undesired lateral or longitudinal movement or impact and so as to provide adequate external support."

Add a new note to read as follows :

*"**Note**: Additional operational requirements for the transport of packagings and IBCs are provided in the special packing provisions for packagings and IBCs (see Chapter 4.1)."*

7.1.4.3.1.2 Amend to read as follows:

"7.1.4.3.1.2 *Derivation of control and emergency temperatures*

Type of receptacle	SADT 1/	Control temperature	Emergency temperature
Single packagings and IBCs	20 °C or less over 20 °C to 35 °C over 35 °C	20 °C below SADT 15 °C below SADT 10 °C below SADT	10 °C below SADT 10 °C below SADT 5 °C below SADT
Portable tanks	< 50 °C	10 °C below SADT	5 °C below SADT

1/ i.e. the SADT of the substance as packaged for transport.

Appendix A and Index

1. Amend as appropriate Appendix A and the alphabetical index in accordance with the amendments adopted for Chapter 3.2.

2. Delete the following entry in the alphabetical index:
"Engine starting fluid with flammable gas, see 2.1 1950"

Appendix B

GLOSSARY OF TERMS

Add the following new entries:

*"**AIR BAG INFLATORS, PYROTECHNIC or AIR BAG MODULES, PYROTECHNIC or SEAT-BELT PRETENSIONERS, PYROTECHNIC***

Articles which contain pyrotechnical substances and are used as life-saving vehicle airbags or seat-belts."

*"**STABILIZED***

Stabilized means that the substance is in a condition that precludes uncontrolled reaction. This

substance to remove dissolved oxygen and thereby to an extent in the packaging or intermediate the substance under temperature control."

PART 2

AMENDMENTS RELATED TO CLASS 7 (RADIOACTIVE MATERIAL)

Amend the Model Regulations in accordance with document ST/SG/AC.10/C.3/30/Add.3 with the following changes:

Table of contents

6.4.18 Replace "type B(U)", "type B(M)" and "type C" with "Type B(U)", "Type B(M)" and "Type C" respectively.

6.4.21 Replace "hexaflouride" with "hexafluoride".

Chapter 1.1

Paragraph

1.1.2.5 Add the following new section:

"1.1.2.5 ***Radioactive material possessing other dangerous properties***

1.1.2.5.1 In addition to the radioactive and fissile properties, any subsidiary risk of the contents of a package, such as explosiveness, flammability, pyrophoricity, chemical toxicity and corrosiveness, shall also be taken into account in the documentation, packing, labelling, marking, placarding, stowage, segregation and transport, in order to be in compliance with all relevant provisions for dangerous goods of these Model Regulations."

Chapter 2.0

2.0.3.2 Amend to read as follows:

"2.0.3.2 Apart from radioactive material in excepted packages (where the other hazardous properties take precedence) radioactive material having other hazardous properties shall always be classified in Class 7 and the subsidiary risk shall also be identified."

Chapter 2.7

2.7.8.2 Replace "7.2.3.1.3(a)" with "7.2.3.1.2(a)".

2.7.10 Amend to read as follows:

"2.7.10 Requirements for low dispersible material"

2.7.10.1 Delete the following first sentence:

"Requirements for low dispersible material"

2.7.10.2 Amend the first sentence to read as follows:

"Low dispersible material shall be tested as follows:"

2.7.10.3 Add a new paragraph as follows:

"2.7.10.3 Demonstration of compliance with the performance standards in 2.7.10.1 and 2.7.10.2 shall be in accordance with 6.4.12.1 and 6.4.12.2."

Chapter 3.2 DANGEROUS GOODS LIST

1. Add "T5" in column (10) and "TP4" in column (11) for UN 2913.

2. Add SP 172 in column (6) of Dangerous Goods List for the following UN entries:

2912, 2913, 2915, 2916, 2917, 2919, 3321, 3322, 3323, 3324, 3325, 3326, 3327, 3328, 3329, 3330, 3331, 3332, 3333.

3 Add SP 290 in column (6) of Dangerous Goods List for the following UN entries:

2908, 2909, 2910, 2911.

Chapter 3.3

3.3.1

SP 172 Replace "Delete" with "Amend to read as follows:

"172 Radioactive material with a subsidiary risk shall:

(a) be labelled with subsidiary risk labels corresponding to each subsidiary risk exhibited by the material; corresponding placards

shall be affixed to transport units in accordance with the relevant provisions of 5.3.1;

(b) be allocated to packing groups I, II or III, as and if appropriate, by application of the grouping criteria provided in Part 2 corresponding to the nature of the predominant subsidiary risk.

The description required in 5.4.1.1.7.1 (e) shall include a description of these subsidiary risks (e.g. "Subsidiary risk: 3, 6.1"), the name of the constituents which most predominantly contribute to this (these) subsidiary risk(s), and where applicable , the packing group."

SP 290 Add a new Special Provision 290 to read as follows:

"290 When this material meets the definitions and criteria of other classes or divisions as defined in Part 2, it shall be classified in accordance with the predominant subsidiary risk. Such material shall be declared under the proper shipping name and UN number appropriate for the material in that predominant Class or Division, with the addition of the name applicable to this material according to column (2) in the dangerous goods list, and shall be transported in accordance with the provisions applicable to that UN number. In addition, all other requirements specified in 2.7.9.1 shall apply, except 5.2.1.5.2 and 5.4.1.1.7.1 (c)."

Chapter 4.7

Paragraph

4.1.7.1.5 Replace by the following:

"4.1.7.1.5 Radioactive material with a subsidiary risk shall be transported in packagings, IBCs or tanks fully complying with the requirements of the relevant chapters of Part 6 as appropriate, as well as applicable requirements of chapters 4.1 or 4.2 for that subsidiary risk."

Chapter 5.2

5.2.2.1.11 Replace "...other than an excepted package..." with "...other than fissile material excepted under 6.4.11.2 ..."

Chapter 5.3

5.3.1.2.2 Replace "...RADIOACTIVE and/or when required ..." with "....RADIOACTIVE or [illegible] figure 7.2

On page 55, for "5.3.1.2.1.2, 5.3.2.1.3 and 5.3.2.2: Renumber..." read "5.3.2.1.2, 5.3.2.1.3 and 5.3.2.2 : Renumber...".

Chapter 6.4

6.4.12 Amend the title to read as follows:

"**6.4.12 Test procedures and demonstration of compliance**"

Chapter 7.1

7.1.6.4.2 Replace " 7.2.3.1.3" with "7.2.3.1.2" in the footnote a/ below the table.

Chapter 7.2

7.2.3.1.1 Add "(Model 7D)" after "Figure 5.2".

Annex 2

Correspondence between IAEA ST-1 paragraphs and UN paragraphs:

Delete "M" in column "UN" for 231 (ref ST-1).

Replace "P20 REC" with "P19 REC" in column "UN" for 304 (ref ST-1).

Reverse order of the 2 references in column "UN" for 507 (ref ST-1).

Replace "5.3.1.3.1" with "5.3.1.1.5.1" in column "UN" for 546 (ref ST-1).

Replace "5.3.1.3.2" with "5.3.2.1.1 and 5.3.2.1.2" in column "UN" for 547 (ref ST-1).

Add "5.3.1.1.5.2" in column "UN" for 570 (ref ST-1).

Replace "7.2.3.1.2" with "5.3.2.1.1 and 5.3.2.1.2" in column "UN" for 571 (ref ST-1).

Replace "7.2.3.1.3" with "7.2.3.1.2" in column "UN" for 572 (ref ST-1).

Replace "7.2.3.1.4" with "7.2.3.1.3" in column "UN"for 573 (ref ST-1).

Correspondence between IAEA ST-1 table and figure numbers and UN table and figure numbers:

Replace "Fig. 5.0" with "Fig. 5.1" in column "UN Figure" for 1 (ref ST-1 Figure).

Insert " 5.3.1.2.2" in column "UN Figure" for 6 (ref ST-1 Figure).

PART 3

AMENDMENTS TO THE MANUAL OF TESTS AND CRITERIA

Amend the Manual of Tests and Criteria in accordance with document ST/SG/AC.10/1998/14 */ with the following changes:

Section 38

Amend Section 38 as follows:

Paragraph

38.3.3.2 Add the following new definitions:

"*Aggregate lithium content* means the sum of the grams of lithium content contained by the cells comprising a battery."

"*Equivalent lithium content* is defined in the definition of lithium content."

"*Lithium content* means the mass of lithium in the anode of a lithium metal or lithium alloy cell, which for a primary cell is measured when the cell is in an undischarged state and for a rechargeable cell is measured when the cell is fully charged, except that in the case of a lithium-ion cell the lithium content is measured in terms of equivalent lithium content, which in grams is calculated to be 0.3 times the rated capacity in ampere-hours."

"*Lithium-ion* cell or battery means a rechargeable electrochemical cell or battery in which the positive and negative electrodes are both intercalation compounds (intercalated lithium exists in an ionic or quasi-atomic form with the lattice of the electrode material) constructed with no metallic lithium in either electrode."

38.3.4.4.3 Replace "[, or until a maximum force of 10 kN is applied]" with ", or until a maximum force of 1000 times the weight of the cell, but not less thant 10 kN, is applied" in first sentence.

Replace "[, or when the maximum 10 kN force is achieved whichever occurs first]" with ", or when a force equal to the maximum of 10 kN or of 1000 times the weight is achieved, whichever occurs first" in the last sentence.

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*/ ***Note by the secretariat*** *: For the Arabic, Chinese, Russian and Spanish versions, refer to documents ST/SG/AC.10/C.3/26/Add.2, annex 2, ST/SG/AC.10/C.3/28/Add.1, annex 2 and ST/SG/AC.10/C.3/30/Add.1.*